

REMARKS

The Office Action raises certain matters concerning editorial errors in the specification. These are attended to in the present paper, as are additional informalities in the nature of editorial errors. It is respectfully believed that these matters concerning the specification have been fully attended to.

Certain claim objections are made with respect to claim 1, claim 14, and claims 7, 9-12, 19 and 22. Each of these claims has been cancelled or has been amended in a manner that is respectfully believed to fully obviate these claim objections. Reconsideration and withdrawal thereof are respectfully requested, including the multiple claim dependency objections.

Certain claims are rejected under 35 U.S.C. §112, second paragraph, and these are believed to be obviated by the present paper. Within at least claims 1-6 and 21, the term "uncalcined gypsum" is amended to "calcium sulfate dihydrate." Concerning claims 13 and 14, the term "at least some" is no longer in claim 13, and claim 14 is cancelled. Claim 22 has been amended in a manner to remove the concern regarding the wording "composition" in that claim. Reconsideration and withdrawal of the §112 rejections are respectfully requested.

Claims 1-6, 13, 16 and 21 are rejected under 35 U.S.C. §103 from Deleuil U.S. Patent No. 4,221,599. Claims 17 and 18 are rejected under 35 U.S.C. §103(a) from Deleuil. Claims 7, 9-12, 19 and 22 were not further treated on the merits in view of the multiple-dependent claim objection.

Each of the independent claims in this application, namely method claim 1 and composition claim 13, are amended to specify the combination of calcium sulfate hemihydrate (stucco) with calcium sulfate dihydrate particles of disulphogypsum (DSG) for forming a sheet of gypsum board, while further specifying that the calcium sulfate dihydrate (DSG) particles have a specific surface area of at least 0.1 and below 0.3 m²/g and a particle size distribution of 0.1 to 1000 microns. Thus, the claims require calcium sulfate dihydrate particles of DSG (generally known as synthetic gypsum). As generally appreciated in the art, these DSG particles are, to a large extent, inert particles, and the current claims specify particle sizes that are large when compared with the cited prior art. Also, these claimed DSG particles are advantageous in that they are readily available in the art, either as waste products of previously manufactured gypsum products or are byproducts of coal-fired power generation stations which produce these DSG (synthetic)

gypsum particles.

Applicants have surprisingly found that these largely inert waste products or byproducts, when combined as presently claimed, impart improved sound-absorbent qualities to traditional wallboard, also known as gypsum board or plasterboard. Furthermore, this combination is particularly useful in that the DSG gypsum is uncalcined and hence undried gypsum (*i.e.*, the calcium sulfate dihydrate) which is used to provide the inert particles inasmuch as these particles already have at least some water content, thereby reducing the amount of water required for the manufacturing process according to the present invention. Support in the application for these advantages is found in paragraphs [0004], [0015], [0016] and [0050], for example.

As specified in the claims and throughout the present application, for example in paragraphs [0009] and [0010], the present invention relates to plasterboard and the manufacturing thereof. Contrary to this, Deleuil discloses, teaches and describes a process that is quite different from the technology of applicants' claims. Deleuil teaches, and is within the art of, producing **molded products which are manufactured by compression**. See lines 3-5 and lines 35-38 in column 6, for

example. It is unnecessary to compress wallboard, plasterboard or gypsum board during its manufacture. In fact, it is undesirable to compress wallboard, plasterboard or gypsum board during manufacture. Accordingly, one of ordinary skill in the art, in looking to improve wallboard, plasterboard or gypsum board, would not look through a reference such as Deleuil if for no other reason than the fact that Deleuil is specifically directed to "pressure compacting of settable gypsum/plaster compositions," as evident from its title and various passages within Deleuil.

Furthermore, one of ordinary skill in the art, in looking for enhancement of acoustic properties of wallboard, gypsum board or plasterboard would not look to a reference such as Deleuil, which does not concern or relate to the problem of how to enhance acoustic properties of any product, let alone a wallboard product (a non-compressed product).

Additionally, Deleuil does not disclose, teach or suggest the particular combination of features specified in independent claims 1 and 13 and their respective dependent claims. In this regard, applicants note that it is in the interest of the Deleuil invention that the added gypsum is in a powdery state so that the desired reaction of Deleuil will take place. See, for

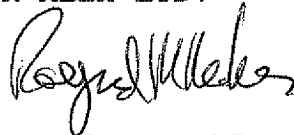
example, line 23 of column 4 of Deleuil. This is quite the opposite of what the presently claimed invention requires. Applicants' invention requires that at least the majority of the particles remain inert and hence produce only sound-absorbent qualities to the plasterboard mixture. In general, it is assumed that brittle materials such as gypsum would have poor acoustic performance when they are densified as they become more of a monolithic material. Applicants claim that the particles added in step (b) are DSG particles, which remain inert in keeping with the presently claimed invention. The powdery state gypsum of Deleuil does not provide the sound-absorbent qualities that are the primary basis for applicants' invention.

In short, Deleuil has multiple deficiencies that make it clear the presently claimed invention is neither anticipated nor rendered obvious by Deleuil. Reconsideration and withdrawal of the §102(b) and §103(a) rejections are respectfully requested.

Applicants have made an earnest endeavor to place this application into condition for allowance, and favorable consideration is respectfully requested.

Respectfully submitted,

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